

In the Specification:

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D/ In the most general application, structural assembly 10 is formed by coupling at least one sub-assemblies 12 with an uncured pre-form 14 in a curing process. In one embodiment of the present invention, pre-form 14 is a 3-D woven textile impregnated with an uncured resin. Pre-form 14 has a base 13 and two legs 15 extending perpendicular to base 13. Base 13 and legs 15 have tapered edges 17. Additionally, an adhesive film 16 can be placed between the sub-assemblies 12 and uncured pre-form 14. The adhesive layer can be incorporated into the resin impregnating the 3-D woven textile. However, self-adhering resin systems typically do not have the same properties.

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D2 Curing in place allows compliant pressure intensifiers 18 to force the flexible uncured woven pre-form 14 against adjacent sub-assemblies 12 thus conforming to severe contours and angles. Additionally, the compliant pressure intensifiers 18 can be inexpensively manufactured as exact fit is not required since the uncured pre-forms 14 can conform to the sub-assemblies 12. Each pressure intensifier 18 is a three-sided polygon in the cross-section shown in Figure 4, defining a triangular configuration. Each pressure intensifier 18 has a straight base side 19 that contacts base 13. A straight leg side 21 contacts the exterior surface of pre-form leg 15. An exterior side 23 joins the edges of base side 19 and leg side 21. A line 25 that is normal to exterior side 21 equally bisects the corner formed by leg side 21 and base side 19. In the

D2 embodiment of Figure 4, base side 19 and leg side 21 are 90° relative to each other and of equal lengths. Exterior side 23 is preferably concave.

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D3 FIGURES 9C and 9D illustrate the co-bond process utilizing a graphite "T" pre-form and a graphite "TT" or Pi-shaped pre-form.